

ABSTRACT

The present invention has an object to provide a surface treatment apparatus, which can form a high-quality film at a high speed while preventing deterioration of the film due to collisions of charged particles.

The surface treatment apparatus (1) of the present invention comprises a casing (2) partitioned to two chambers, that is, a plasma generating chamber (3) provided with plasma generating electrodes (5, 5') and a substrate processing chamber (4) provided with a substrate supporting table (8). A plasma vent (6) is formed in the electrode (5') that composes the partition between the chambers (3, 4). A conductive mesh-shaped sheet (9) is disposed in a direction across the plasma between the plasma vent (6) and a substrate (S) on the substrate supporting table (8). The sheet (9), to which a variable bias is applied, captures charged particles in the plasma so that the charged particles can be excluded from the plasma.